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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,957	11/17/2003	Jiro Moriyama	CFA00047US	4447

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CANON U.S.A. INC. INTELLECTUAL PROPERTY DIVISION  
15975 ALTON PARKWAY  
IRVINE, CA 92618-3731

EXAMINER
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GARCIA JR, RENE

ART UNIT	PAPER NUMBER
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2853

NOTIFICATION DATE	DELIVERY MODE
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11/27/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/715,957	<b>Applicant(s)</b> MORIYAMA ET AL.	
	<b>Examiner</b> Rene Garcia Jr	<b>Art Unit</b> 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 27-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 38 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent claim 38 recites that "recording apparatus further comprising a sensor unit configured to detect positional information image recorded using the carbon black ink on the recording medium". Specification fails to teach that the sensor unit is a part of the recording apparatus, only that a predetermined detector is used to detect positional information. Further is it taught in the USPGPUB of the instant application, 2004/0101278 paragraph 0032, that a pen equipped with a camera is used to detect such information. Wherein it is that pen is a for the purpose of writing information on the medium, and utilized a sensor to determine positional information. The specification has failed to define a "recording apparatus" to include a sensor unit inline with the claim limitation. Further the specification fails to define that the pen is functional with the recording apparatus for any purpose.

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***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 32-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook et al. (US PG PUB 2002/0080396) in view of Fåhraeus (US 6,502,756) and Brouhon et al. (US 6,962,450).

**Silverbrook et al. disclose the following:**

\*regarding claims 27, 32, 38, recording apparatus **/netpage printer, 601/** (fig. 11) and method for forming an image on a recording medium/**netpage, 1/** (fig. 1; paragraph 0216 see also paragraphs 0148 and 0218), comprising:

\*image processing unit/**printer controller; RIP DSPs, 757/** (Fig. 14; ¶0552, 0554, 0562-0567) configured to create a first recording data/**coded data,3/** (fig. 1; ¶0129, 0565 – coded data/3/ [invisible ink] is the IR layer being processed) by reading pattern data for recording positional information representing positions (¶0158; x & y coordinates) on a recording medium/**1/** and to create a second recording data/**graphic data, 2/** (fig. 1; ¶0129) by reading recording data for recording an image, and synthesize/**rasterize/** (¶0221, 0222, 0392, 0393) the first recording data and the second recording data

\*recording control unit/**print engine controllers, 760/** (fig. 14; ¶0554) configured to execute recording of first recording data/**coded data/** and second recording

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data/**graphic data**/ concurrently, based on the synthesized recording data (¶0129, 0554)

\*wherein a first black ink/**infrared inks, IR-absorptive black ink**/ detectable by a predetermined detector/**netpage pen, 101**/ (figs. 8 & 9; paragraph 0255) is used to record the positional information image/**3**/ and cyan ink, magenta ink, yellow ink, and a second black ink (paragraph 0243; cyan, magenta, yellow, black), which are undetectable by the predetermined detector/**netpage pen, 101**/ (paragraph 0151 – cyan, magenta, yellow, black are non-infrared emitting), are used to record the image

\*regarding claims 28 and 33, positional information image/**coded data, 3**/ represents positions on the recording medium/**1**/ by combining positions of a plurality of spots recorded on the recording medium/**1**/ (figs. 6a, 6b & 6c)

\*regarding claim 37, computer-readable storage medium storing computer-executable process steps, the computer-readable process steps causing a computer to execute the method of claim 32 (flash memory/658/; fig. 14; ¶0556)

**Silverbrook et al. does not disclose the following claimed limitations:**

\*regarding claims 27, 32, 38, using at least a first recording head for discharging a carbon black ink and a second recording head for discharging a dye black ink, a dye cyan ink, a dye magenta ink and a dye yellow ink

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\*carbon black ink is detectable by a detector configured to detect the carbon black ink recorded on the recording medium, the carbon black ink is used to record the positional information image, and the dye cyan ink, the dye magenta ink, the dye yellow ink, and the dye black ink, which are undetectable by the detector, are used to record the image

\*execute recording of the first recording data by the first recording head and recording of the second recording data by the second recording head concurrently, based on the synthesized recording data

\*\*Silverbrook et al. teaches the use of six colors for printing; including Black, Cyan, Magenta, Yellow and IR-Absorptive Black ink (carbon); ¶0223, 0243, 0252, 0520; fig. 54) wherein the six colors are ejected via a single printhead with multiple rows or interdigitated printing elements instead of two separate heads; Further Silverbrook et al. teaches the use of existing consumer inkjet and laser printers (¶0135) and wide range of digital printing technologies (¶0228), although not ideal for use, teaches the use; wherein it is understood that consumer printers are capable of using single or plural printhead configurations. Silverbrook et al. further teaches (¶0242) the invention of a new print technology to meet desired characteristics not found in an all-in-one printing technology. Wherein this includes incorporating a plural inks into a single printhead module (¶0243). Applicant further acknowledges see that a person having ordinary skill in the art would make use of using two recording heads without undue experimentation,

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with respect to the instant applications printing apparatus only disclosing structure specific to a single printhead being utilized, but inferring the use of two print heads, as argued on page 10 of arguments filed 01/26/09; In conjunction with Silverbrook et al. teaching the creation of a single printhead to utilize plurality of inks and applicant's acknowledgment, it would have been within reason for a person of ordinary skill to utilize two print heads, in perhaps a consumer printer.

\*regarding claims 29 and 34, dots are recorded with reference to virtual lattice points of the recording medium

\*regarding claims 31 and 36, the dye cyan ink, dye magenta ink, dye yellow ink, and dye black ink are carbon free inks

\*regarding claim 38, recording apparatus further comprising a sensor unit configured to detect the positional information image recorded using the carbon black ink on the recording medium

**Fåhraeus teaches the following:**

\*regarding claims 27, 32, 38, using at least a first recording head for discharging a carbon black ink and a second recording head for discharging a dye black ink, a dye cyan ink, a dye magenta ink and a dye yellow ink (col. 17, lines 25-37)

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\*carbon black ink is detectable by a detector configured to detect the carbon black ink recorded on the recording medium, the carbon black ink is used to record the positional information image, and the dye cyan ink, the dye magenta ink, the dye yellow ink, and the dye black ink, which are undetectable by the detector, are used to record the image (col. 17, lines 25-37; col. 5, lines 13-17; col. 5, line 62 – col. 6, line 3)

\*execute recording of the first recording data by the first recording head and recording of the second recording data by the second recording head concurrently, based on the synthesized recording data (col. 2, lines 52-57; col. 6, lines 21-30; 34-39; col. 7, lines 52-54)

\*regarding claims 31 and 36, the dye cyan ink, dye magenta ink, dye yellow ink, and dye black ink are carbon free inks (col. 17, lines 25-37)

\*regarding claim 38, recording apparatus further comprising a sensor unit configured to detect the positional information image recorded using the carbon black ink on the recording medium (col. 3, lines 21-45, 60-65; col. 5, lines 62 - col. 6, line 3)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize using at least a first recording head for discharging a carbon black ink and a second recording head for discharging a dye black ink, a dye cyan ink, a dye magenta ink and a dye yellow ink; carbon black ink is detectable by a detector configured to detect the carbon black ink recorded on the



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recording medium, the carbon black ink is used to record the positional information image, and the dye cyan ink, the dye magenta ink, the dye yellow ink, and the dye black ink, which are undetectable by the detector, are used to record the image; execute recording of the first recording data by the first recording head and recording of the second recording data by the second recording head concurrently, based on the synthesized recording data; and the dye cyan ink, dye magenta ink, dye yellow ink, and dye black ink are carbon free inks; and recording apparatus further comprising a sensor unit configured to detect the positional information image recorded using the carbon black ink on the recording medium as taught by Fåhraeus into Silverbrook et al. for the purpose of detection of positional information encoded on a medium with a detector while having inks/dye, non-carbon based/ not interfering with detection.

Fåhraeus does not specifically teaches the use of dye inks, however does teach that "other inks" (including non-carbon based black) can be used to superimpose some other print without interfering with the reading thereof. It would have been obvious to a person having skill in the art and reasonable for such a person to utilize a dye ink for creation of images. The claim limitations have not further defined the use of "dye" based inks, either through chemical properties or performance characteristics, such that it would require explicit teaching of their use. Applicant has only established that a dye based ink is required such that it is not detectable by the detector. Therefore it is within reason for a person having skill in the art to recognize that a dye based ink would be an ideal "other ink" for use such that they do not "interfere" with reading of positional information, since it has been held to be within general skill of a worker in the art to

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select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. **In re Leshin, 125 USPQ 416 (C.C.P.A. 1960).**

\*\*Silverbrook et al. further teaches regarding claims 30, 35 and 39, the use of six colors for printing; including Black, Cyan, Magenta, Yellow and IR-Absorptive Black ink (carbon) (¶0223, 0243, 0252, 0520; fig. 54) wherein the six colors are ejected via a single printhead with multiple rows or interdigitated printing elements instead of two separate heads

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize more than one head to provide carbon black ink, dye cyan ink, dye magenta ink, dye yellow ink, and dye black ink since it is known in the art to provide different printhead cartridges for different configurations, or where an array of print elements is distributed via multiple sub-printheads to makeup the whole. Therefore is within reason for a person having ordinary skill to utilize the inks that Fåhræus teaches in such a manner as claimed to achieve overall image of positional information and other image.

**Brouhon et al. discloses the following:**

\*regarding claims 29 and 34, dots are recorded on virtual lattice points of the recording medium (fig. 2; col. 5, lines 22-45; background information - col. 1, lines 21-39, lines 51-56, lines 61-67, col. 2, lines 1-11)

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Silverbrook et al. and Brouhon et al. are analogous art because they are directed to a similar problem solving area of position identifying patterns utilized in conjunction with a primary image.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize dots are recorded on virtual lattice points of the recording medium as taught by Brouhon et al. into Silverbrook et al. for the purpose position identifying of a secondary image.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize more than one head to provide first black ink, cyan ink, magenta ink, yellow ink, and second black ink since it is known in the art to provide different printhead cartridges for different configurations, or where an array of print elements is distributed via multiple sub-printheads to makeup the whole

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 27 and 32 have been considered but are moot in view of the new ground(s) of rejection.

Silverbrook et al. (US 2002/0080396), herein Silverbrook, in view of Fåhraeus and Brouhon et al. teaches the claim limitations, as amended. The rejection of the claims above provide the specific details with respect to those limitations. Specifically Fåhraeus teaches the use of non-carbon based inks ("other inks"), wherein it within reason for a person having ordinary skill in the art to recognize that such other inks can

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include “dye” based inks and further that they can be non-carbon based dye inks (since Fåhraeus explicitly states they would be non-carbon based). The claim limitations have failed to provide definition with regards to “dye” based ink such that its general use in the art is not sufficient for a person to recognize are meeting the claim limitations when Fåhraeus teaches using “other inks”.

Applicant provides arguments on page 8, of remarks field 07/28/09, regarding Silverbrook and the use of “invisible inks”. It is brought to attention that Silverbrook also provides alternative interpretation and embodiments that would be sufficient to achieve the invention. Specifically teaching that “invisible” is “substantially invisible”, ¶0127. Further teaching the use of non-invisible inks in paragraphs 0223 and 0243, which acknowledgement that limited capabilities would result, but nonetheless still capable of such use.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### **Communication with the USPTO**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rene Garcia Jr whose telephone number is (571)272-5980. The examiner can normally be reached on M-F 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. G./  
Examiner, Art Unit 2853

/Manish S. Shah/  
Primary Examiner, Art Unit 2853